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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/620,089	07/14/2003	Philip Roland Lacourt	HP0083USNA	7408

23906 7590 02/07/2005

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EXAMINER

ZACHARIA, RAMSEY E

ART UNIT PAPER NUMBER

1773

DATE MAILED: 02/07/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/620,089

Applicant(s)

LACOURT, PHILIP ROLAND

Examiner

Ramsey Zacharia

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 January 2005.
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 and 20-26 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 1-5, 9, 11-15 and 21-26 is/are rejected.
7) ☒ Claim(s) 6-8, 10 and 20 is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☒ The drawing(s) filed on 14 July 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claim Language

2. The applicant is requested to change the term "copolymer" on line 6 in each of claims 4-8 to the term --polymer-- since polytetrafluoroethylene is not a copolymer but a homopolymer.

Claim Rejections - 35 USC § 102

3. Claims 1-3, 11-13, 21, and 22 are rejected under 35 U.S.C. 102(b) as being anticipated by Effenberger et al. (U.S. Patent 5,238,748).

Effenberger et al. teach a laminate comprising a layer of polyimide, a fluoropolymer layer, and an adhesive layer (column 4, lines 42-47). The adhesive of the adhesive layer may be a thermally compatible TFE copolymer, such as PFA, or a blend of the thermally compatible TFE copolymer and PTFE (column 4, lines 45-50). The blend should contain at least 40 vol% (~ 40 wt%) of PTFE (column 6, lines 14-15), i.e. as much as 60% of the thermally compatible TFE copolymer. The PFA has a melting point of 305 °C (column 6, lines 6-7). The laminate may be used as tape-wrapped insulation for wires (column 7, lines 39-44). The polyimide layer has a thickness of 0.5-2.0 mil, i.e. ~ 12.5-50 µm (column 5, lines 58-59). In the embodiment of Example 1, the thicknesses of the layers are as follows: 2 mil (i.e. ~ 50 µm) for the polyimide layer, 0.05 mil (~ 1.25 µm) for the adhesive layer, and 0.5 mil (~ 12.5 µm) for the fluoropolymer

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layer (column 6, 42-47). A PTFE dispersion is coated on the adhesive layer to form a PTFE layer having a thickness of 0.5 mil thick ($\sim 12.5 \mu\text{m}$) (column 6, lines 47-50). This PTFE layer reads on the exterior layer of instant claim 2. The laminate is then baked and thermally treated which should result in at least a partial sintering of the PTFE dispersion particles (column 6, line 52-column 7, line 8).

Claim Rejections - 35 USC § 103

4. Claims 4, 5, 9, 14, 15, 23, 24, and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Effenberger et al. (U.S. Patent 5,238,748).

Effenberger et al. teach all the limitations of claims 4, 5, 9, 14, 15, 23, 24, and 26, as outlined above, except for specifying that the fluoropolymer layer on the opposite side of the polyimide layer from the PTFE layer comprises FEP. In the embodiment of Example 1, this layer is formed from a blend of PTFE and PFA. Effenberger et al. also do not teach the addition of one of the additives recited in instant claim 26 into the polyimide layer.

Regarding claims 4, 5, 9, 14, 15, 23, and 24, Effenberger et al. do teach the equivalence of thermally compatible TFE copolymers (preferably PFA and FEP) and blends of PTFE with the thermally compatible TFE copolymers (column 4, lines 42-50). That is, Effenberger et al. show that FEP and blends of PTFE and PFA are functionally equivalent materials for the practice of their invention. Therefore, because these two materials were art-recognized equivalents at the time the invention was made, one of ordinary skill in the art would have found it obvious to substitute FEP for one of the PTFE/PFA blend layers.

Regarding claim 26, Effenberger et al. teach the addition of carbonates that evolve carbon dioxide, minerals containing water of hydration, and polymers that decompose without producing carbonaceous or other conductive by-products to improve the arc tracking properties of the laminate (column 5, lines 9-27). While Effenberger et al. teach the incorporation of these additives into the fluoropolymer layers as opposed to the polyimide layer, Effenberger et al. also notes that it is well known in the art that polyimide films can also suffer catastrophic failure as a result of arc tracking (column 1, line 57-column 2, line 4). Therefore, it would have been obvious to one skilled in the art to incorporate additives (such as carbonates that evolve carbon dioxide, minerals containing water of hydration, and polymers that decompose without producing carbonaceous or other conductive by-products) into the polyimide layer to improve the arc tracking properties of polyimide layer, and thus the laminate as a whole.

5. Claim 25 is rejected under 35 U.S.C. 103(a) as being unpatentable over Effenberger et al. (U.S. Patent 5,238,748) in view of Herbreteau (U.S. Patent 4,271,226).

Effenberger et al. teach all the limitations of claim 25, as outlined above, except for the degree of overlap when insulating wire by wrapping the laminate around the wire.

Herbreteau is directed to insulation for a cable formed by wrapping a tape around the cable (abstract). Herbreteau teaches that the level of insulation required is a function of the degree of overlap (column 4, lines 13-22). That is, the degree of overlap is a results effective variable that affects the level of insulation provided. It would have been obvious to one having ordinary skill in the art at the time the invention was made to optimize the degree of overlap when wrapping the tape of Effenberger et al. around a wire depending on the level of insulation

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required, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F.2nd 272, 205 USPQ 215 (CCPA 1980).

Allowable Subject Matter

6. Claims 6-8, 10, and 20 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. The reasons for the indication of allowable subject matter was put forth in the Office action mailed 01 October 2004.

Response to Arguments

7. Applicant's arguments filed 10 January 2005 have been fully considered but they are not persuasive.

The applicant argues that Effenberger et al. do not teach or suggest a bonding layer containing pure PFA or a blend with more than 50% PFA.

This is not persuasive for the following reasons. While the use of PTFE in the adhesive may be preferred, the teachings of a reference are not limited to preferred embodiments. Effenberger et al. explicitly teach that the laminate comprises "an adhesive of PTFE, thermally compatible TFE copolymers, or blends thereof" (see column 4, lines 45-47). That is, the adhesive may comprise thermally compatible TFE copolymers, such as PFA, in the absence of PTFE. Moreover, Effenberger et al. explicitly teach that the blends of PTFE and TFE copolymer may contain as little as 40% PTFE with the remainder being the TFE copolymer (see column 6, lines 14-16).

Conclusion

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ramsey Zacharia whose telephone number is (571) 272-1518. The examiner can normally be reached on Monday through Friday from 9 to 5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Deborah Jones, can be reached on (571) 272-1535. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished

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applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, appearing to read 'RZ', with a stylized flourish extending to the right.

Ramsey Zacharia
Primary Examiner
Tech Center 1700